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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,256	12/12/2000	Cathy L. Blouin	BUR9-2000-0050-US1	4768
29154	7590	06/22/2005	EXAMINER	
FREDERICK W. GIBB, III MCGINN & GIBB, PLLC 2568-A RIVA ROAD SUITE 304 ANNAPOLIS, MD 21401			WOO, RICHARD SUKYOON	
			ART UNIT	PAPER NUMBER
			3639	
DATE MAILED: 06/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,256

Applicant(s)

BLOUIN ET AL.

Examiner

Richard Woo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

- 1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 11, 2005 has been entered.
- 2) The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

- 3) Applicant's arguments filed March 11, 2005 have been fully considered but they are partially persuasive.

In response to the applicant's argument regarding 35 U.S.C. 112, 2nd paragraph rejection, the amended claims are still deemed to be indefinite because it is not clear what the new device is when the device includes a technology generation that is yet to be developed such that one of ordinary skill in the art would be able to make and use of this invention.

In response to the applicant's arguments that there is a need for a method and system that can predict the cost per wafer for future generations of the semiconductor

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art field based upon historical data of known technologies, Fig. 2 and Table 1 of "Manufacturing" depict programs to predict the cost per chip for future generations.

In response to the applicant's argument that "Manufacturing" does not show the computer ADAPTED to perform a regression analysis as for Claim 1, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

In response to the applicant's argument that the prior art does not specifically show "a regression analysis", the previous section 102 rejections of Claims 8-27 are hereby withdrawn.

Claim Rejections - 35 USC § 112

4) Claims 4-5, 11-12, 19-20 and 24-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 4, lines 1-2, the recitation of "a technology generation that is yet to be developed" renders the claim indefinite because it is not clear what kind of technology

constitutes the unknown technology. See Supra response to the argument. The Claims 11, 19 and 24 subsequently suffer the similar indefiniteness.

Claim Rejections - 35 USC § 102

5) Claims 1-7, as far as Claims 4-7 are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by "21st Semiconductor Manufacturing Capabilities" (hereinafter "Manufacturing").

As for Claim 1, Manufacturing discloses a system comprising:

a storage medium (inherently any facility running the "Next Generation Manufacturing" must have the storage medium to store pertinent data) including a database of historical critical dimensions and historical critical ground rules correlated to cost functions at the fabricator (see Figs. 2-3 and Tables 1-3);

a user interface (keyboard or mouse) having user inputs for new design parameters and new critical ground rules associated with a new device to be produced at the fabricator; and

a computer adapted to receive the user inputs;

perform an analysis on historical costs of historical critical dimensions at the fabricator, using the historical critical dimensions as independent variables and the historical costs as dependent variables;

create models (programs) from the regression analysis showing a relationship between the dimensions and costs (see Figs. 2-3 and Tables 1-3);

input new design parameters and new critical dimensions (see 2003 data or further later predictions); and

predict product costs of the new device based on the models (see Supra Response to Applicant's argument).

As for Claim 2, Manufacturing further discloses the system, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Figs. and tables).

As for Claim 3, Manufacturing further discloses the system, wherein the new critical dimensions are smaller than the historical critical dimensions (see Id.).

As for Claim 4, Manufacturing further discloses the system, wherein the new device includes a future technology generation.

As for Claim 5, Manufacturing further discloses the system, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown.

As for Claim 6, Manufacturing further discloses the system, wherein relationships include base models and models that include options (see Figs. and Tables).

As for Claim 7, Manufacturing further discloses the system, wherein relationships include models that illustrate that costs increase exponentially as the historical critical dimensions and the historical critical ground rules are reduced (see Supra Figs. and Tables).

Claim Rejections - 35 USC § 103

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7) Claims 8-27, as far as Claims 11-12, 19-20 and 24-25 are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Manufacturing in view of Evans et al. (US 6,775,647).

As for Claim 8, Manufacturing discloses a method comprising the steps of:

performing an analysis on historical costs of historical critical dimensions at a fabricator, using the dimensions as independent variable and the costs as dependent variables (see Figs. 2-3 and Tables 1-3 and the descriptions thereof);

creating, in a database, models from the regression analysis showing a relationship between the dimensions and costs (see Supra Figs. and Tables); and

inputting new design parameters and new critical dimensions of a new device into the database and predicting product costs of the new device based on the models (see Supra Response to applicant's argument).

However, Manufacturing does not expressly disclose the method including the step of performing a regression analysis.

Evans et al. teaches, for a method and system for estimating manufacturing costs, that the invention performs a regression analysis for developing new products (e.g. see col. 5, lines 19-38).

Since Evans et al. and Manufacturing are both from the same field of endeavor of predicting a cost for developing new products, the purpose disclosed by Evans et al. would have been well recognized in the pertinent field of Manufacturing.

Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Manufacturing such that the invention performs a regression analysis based on a relationship between the historical gate dimensions and the costs (see Fig. 2 and Table 1 of Manufacturing), as taught by Evans et al., for the purpose of providing an advantage of cost modeling for an engineer who is striving for a better understanding of the cost of his design and seeking to reduce production costs.

As for Claim 9, the modified method of Manufacturing further discloses the method, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Fig. 2 and Tables 1-2 of Manufacturing).

As for Claim 10, the modified method of Manufacturing further discloses the method, wherein the new critical dimensions are smaller than the historical critical dimensions (see Id.).

As for Claim 11, Manufacturing further discloses the method, wherein the new device includes a future technology generation (see Fig. 2 of the Manufacturing).

As for Claim 12, Manufacturing further discloses the method, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown (see Id.).

As for Claim 13, Manufacturing further discloses the method, wherein relationships include base models and models that include options (see Supra Figs. and Tables).

As for Claim 14, manufacturing further discloses the method, wherein relationships include models that illustrate that costs increase exponentially as the historical critical dimensions and the historical critical ground rules are reduced (see Id.).

As for Claim 15, Manufacturing discloses a system comprising:

an analyzer adapted to determine relationships between historical critical dimensions of historical technologies and costs of historical technologies (see the entirety of document, to note how "Operational modeling and simulation" and "Knowledge Management" work to compute the costs for the new design);

a user interface for inputting a new critical dimension of a new technology; and

a calculator for predicting a cost of the new technology based on the new critical dimension and the relationships (see especially Figs 2-3. and Tables 1-3).

However, Manufacturing does not expressly disclose the system including the regression analyzer.

Evans et al. teaches, for a method and system for estimating manufacturing costs, that the invention performs a regression analysis for developing new products (e.g. see col. 5, lines 19-38).

Since Evans et al. and Manufacturing are both from the same field of endeavor of predicting a cost for developing new products, the purpose disclosed by Evans et al. would have been well recognized in the pertinent field of Manufacturing.

Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Manufacturing such that the invention performs a regression analysis based on a relationship between the historical gate dimensions and the costs (see Fig. 2 and Table 1 of Manufacturing), as taught by Evans et al., for the purpose of providing an advantage of cost modeling for an engineer who is striving for a better understanding of the cost of his design and seeking to reduce production costs.

As for Claim 16, Manufacturing further discloses the system, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Figs. and Tables).

As for Claim 17, Manufacturing further discloses the system, wherein the new dimensions are smaller than the historical dimensions (see Id.).

As for Claim 18, Manufacturing further discloses the system including a storage unit adapted to store a database of the relationships (the computer system of both Manufacturing and Evans et al. MUST include the database).

As for Claim 19, Manufacturing further discloses the system, wherein the new device includes a future technology generation (see Fig. 2 of Manufacturing).

As for Claim 20, Manufacturing further discloses the system, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown (see Id.).

As for Claim 21, Manufacturing discloses a method comprising:

performing an analysis on historical costs of historical critical dimensions at a fabricator, using the dimensions as independent variable and the costs as dependent variables (see the entirety of document, to note how "Operational modeling and simulation" and "Knowledge Management" work to compute the costs for the new design);

creating, in a database, models from the regression analysis showing a relationship between the dimensions and costs; and

inputting new design parameters and new critical dimensions of a new device into the database and predicting product costs of the new device based on the models (see especially Figs. 2-3, Tables 1-3 and Supra Response to Applicant's Argument).

However, Manufacturing does not expressly disclose the method including the step of performing a regression analysis.

Evans et al. teaches, for a method and system for estimating manufacturing costs, that the invention performs a regression analysis for developing new products (e.g. see col. 5, lines 19-38).

Since Evans et al. and Manufacturing are both from the same field of endeavor of predicting a cost for developing new products, the purpose disclosed by Evans et al. would have been well recognized in the pertinent field of Manufacturing.

Accordingly, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Manufacturing such that the invention performs a regression analysis based on a relationship between the historical gate dimensions and the costs (see Fig. 2 and Table 1 of Manufacturing), as taught by Evans et al., for the purpose of providing an advantage of cost modeling for an engineer who is striving for a better understanding of the cost of his design and seeking to reduce production costs.

As for Claim 22, Manufacturing further discloses the method, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Figs. and Tables).

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As for Claim 23, Manufacturing further discloses the method, wherein the new critical dimensions are smaller than the historical critical dimensions (see Id.).

As for Claim 24, Manufacturing further discloses the method, wherein the new device includes a future technology generation (see Fig. 2 of Manufacturing).

As for Claim 25, Manufacturing further discloses the method, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown (see Id.).

As for Claim 26, Manufacturing further discloses the method, wherein relationships include base models and models that include options (see Supra Manufacturing Figs. and Tables).

As for Claim 27, Manufacturing further discloses the method, wherein relationships include models that illustrate that costs increase exponentially as the historical critical dimensions and the historical critical ground rules are reduced (see Id.).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Woo whose telephone number is 571-272-6813. The examiner can normally be reached on Monday-Friday from 8:30 AM -5:00 PM.

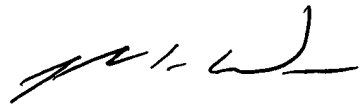
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Richard Woo
Art Unit 3639
June 15, 2005



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